

BOARD OF EDUCATION OF HOWARD COUNTY MEETING AGENDA ITEM

TITLE: Indoor	r Envir	onmental Quali	ity Advisory	Report	DATE	February 25, 2016
				ive Director, High School		
PRESENTER(S):		Anissa Brown	Dennis, Adn	ninistrative Director, Mic	idle Schools	3
Vision 2018 Go	OAL:	Students	⊠ Staff	☐ Families and Commu	ınity 🔲 🤇	Organization
OVERVIEW:						
the Superintend Procedures. The County Public Sand studied the Schools Frame developed by the reviewed the regroups including developed recontrol of the Superintents.	dent as le IEQ School resource work a he Hea lesource mmeno	s prescribed in Advisory Comr System's (HC) ces of the Environ Kit, alth & Environnes and experiedents, staff mations that wer implementing	the modificanittee review PSS) Depart ironmental Previewed the nental Issues nees of neighteenbers, pare shared with	ality (IEQ) Advisory Comation of Policy 6080: Set the current services ment of School Facilities rotection Agency's (EPA) past work of the School Committee of the PTA aboring public schools serents, and community on the Superintendent's Committee's recommittee's recommittees systemwide	ustainability and practices. The cor by Indoor Air col Environn council of systems, va members. cabinet.	mplementation es of the Howard mmittee analyzed Quality Tools for nent Team (SET) Howard County, rious stakeholder The committee
walk-through re	eviews ecomm	of designated ended for com	areas of eamunication t	an includes systemwide ach Howard County Pu hat will inform the Howa	ublic Schoo	I System facility.
Recommendation	FION/F	UTURE DIRECT	TON: Implem	ent the recommendation	ns described	I in this report.
SUBMITTED BY:			APP	ROVAL/CONCURRENCE:	1999	
	Execu Schoo	V. Eastham, Jr. utive Director of Improvement a nistration	and		Renee A. I Superinter	Foose, Ed.D. ident
	Admir	Massella, Ph.D. histrative Directo Schools	r		Linda T. W Deputy Su	/ise perintendent
	Admir	a Brown Dennis histrative Director e Schools	<u> </u>			

2015 Indoor Environmental Quality Advisory Committee Membership

The Charter approved on September 17, 2015 described the membership of the 2015 Indoor Quality Advisory Committee membership. Positions were announced publicly and the following students, staff, and community members volunteered to serve on the Advisory Committee in the positions indicated.

2015-16 IEQ Advisory Committee Participants

Co Facilitators: Gina Massella and Anissa Brown Dennis

- 1. Office of Executive Services: Caryn Lasser
- 2. Office of School Facilities and Custodial: Olivia Claus
- 3. Office of School Facilities and Custodial: Alan Moss
- 4. Office of Building Services: Herb Savje
- 5. Office of School Construction: Dan Keiser
- 6. Office of Risk Management: Jeff Klenke
- 7. Office of Integrated Pest Management: Mark Hardin
- 8. Office of Energy Management: Diane Sweeney
- 9. Office of Custodial Services: Larry Phillips
- 10. Office of Food Services: Brian Ralph
- 11. Office of Health Services: Kerrie Wagaman
- 12. Office of Transportation: David Ramsay
- 13. Office of Secondary Science: Mary Weller
- 14. Elementary School Administrator: Denise Lancaster
- 15. Middle School Administrator: Tammy Goldeisen
- 16. High School Administrator: Addie Kaufman
- 17. High School Principal: Karl Schindler
- 18. Elementary School Teacher: Rebecca Otte
- 19. Elementary Special Education Para educator: Vanessa Lichliter
- 20. Sustainability Inc: Mark Paxton
- 21. Howard County Health Department: Mike Davis
- 22. Elementary School Parent: Daysha Liggins
- 23. Elementary School Parent: Bryan Pax
- 24. Middle School Parent: Ming Pang
- 25. High School Parent: Nirmala Manipandian
- 26. Community Member At Large: David Jett
- 27. Community Advisory Council: Jennifer Swickard Mallo
- 28. Cultural Proficiency and Equity Advisory: Charlene Allen
- 29. Howard County Administrators Association: Lenore Schiff
- 30. Howard County Administrators Association: Brein Bashore
- 31. PTA Council Howard County: Bill Santos
- 32. PTA Council Howard County: Daniel Vona
- 33. Howard County Association of Student Councils: Catherine Strawley

Indoor Environmental Quality Advisory Report

BACKGROUND

On September 3, 2015, the Howard County Public School System (HCPSS) Board of Education (BOE) approved a modification of Policy 6080: Sustainability, Implementation Procedures. This modification under Operations and Maintenance Practices stated that HCPSS would regularly evaluate all facilities as to the building systems, building exterior structures, building cleanliness and appearance, energy usage, and other aspects pertaining to the building. A walk-through of facilities will be conducted as part of this evaluation. A representative team of stakeholders with suggested participants was also included in the modification of Policy 6080.

In order to comply with the modifications of Policy 6080, <u>Sustainability</u>, a Charter was presented to the HCPSS Board of Education on September 17, 2015, which established the Indoor Environmental Quality (IEQ) Advisory Committee. The IEQ Advisory Committee was charged with recommending to the Superintendent a <u>systemwide walk-through process that will enhance the system's ability to achieve the goals outlined in *Vision 2018*. The work of the IEQ Advisory Committee aligns and supports all four goals of *Vision 2018* by strategically examining the organizational practices that ensure providing and maintaining a quality healthy environment in all of the HCPSS's and school facilities. Specifically, the outcomes and strategies of *Vision 2018* strongly aligned with the work of the IEQ Advisory Committee were the following:</u>

Outcome	1.7 :	Schools support the social and emotional safety and well-being of all students.
	1.7.6	Strengthen professional learning in safeguarding students' social and emotional safety and well-being.
Outcome	2.1:	Staff members experience a culture of trust, transparency, and collaboration.
	2.2.1	Build structures for cross-functional collaboration among offices and schools.
Outcome	3.1:	HCPSS collaborates with family and community partners to engender a culture of trust, transparency, and mutual respect.
	3.1.3	Consistently include representatives from stakeholder groups in planning processes to inform school system actions and decisions.
Outcome	4.1:	All facilities are safe and secure.

4.1. All lacilities are sale at

4.1.1 Strengthen security and safety practices and ensure consistency across the school system.

Outcome

4.6: Decisions are informed by relevant data in all operational areas.

4.6.1 Regularly consider research-based best practices.

4.6.2 Consistently include collaborative stakeholders teams in planning processes to inform decisions.

According to the September 17, 2015 Charter, the objectives of the IEQ Advisory Committee were to:

- Examine the Environmental Protection Agency's (EPA) Indoor Air Quality Tools for Schools Framework and Action Kit.
- Review applicable federal, state, and local laws and regulations governing indoor environmental quality in school facilities including preventive maintenance, housekeeping, pest management, environmental investigation and response.
- Examine available data on indoor environmental quality in HCPSS facilities.
- Identify protocols and processes for all HCPSS facilities to monitor, improve, and regularly assess indoor environmental quality in all facilities.
- Collect and consider feedback from stakeholder groups.
- Note any implications or follow-up actions that may be necessary as a result of the committee's recommendations.
- Develop a recommendation that will enhance the system's ability to achieve Vision 2018.

 Submit a recommendation for a system-wide plan on Indoor Environmental Quality to the Superintendent.

Extensive research was conducted using the resources provided in the EPA's Indoor Air Quality Tools for Schools Framework and Action Kit as well as various newsletters and pamphlets. The EPA's Indoor Air Quality Tools for Schools Framework and Action Kit is endorsed by the National Education Association, National PTA, and the American Lung Association, as well as other notable organizations. The work of the School Environment Team (SET), developed in 1998 by the Health & Environmental Issues Committee of the PTA Council of Howard County was analyzed and reviewed. Montgomery County Public School System (MCPS) and Baltimore County Public School System (BCPS) were contacted, and both systems were generous in sharing their experiences and resources regarding indoor environmental challenges and resolutions. Background reading on current indoor environmental concerns in HCPSS as well as systems across the state were reviewed and considered. The IEQ Advisory Committee, which was composed of a diverse group of stakeholders from the HCPSS including, students, parents, and the community at large, met five times beginning on October 6, 2015 with the final meeting held on November 23, 2015 for a total of ten meeting hours. In addition, and outside the formal meeting hours, the IEQ Advisory Committee reviewed documents and resources on a web-based platform established for this committee, which summarized its work, shared resources. and collected team feedback.

This report describes the recommendations developed by the IEQ Advisory Committee for a systemwide walk-through process and communication protocols for the HCPSS. The Superintendent's Cabinet reviewed the committee's recommended systemwide plan and the supporting communication protocols that allow all stakeholders to be fully informed regarding the environmental quality of the facilities of the HCPSS.

Overview

A systemwide plan to address indoor environmental quality in the facilities of the HCPSS is presented in this report. The IEQ Advisory Committee analyzed and incorporated components of the EPA's *Indoor Air Quality Tools for Schools Framework and Action Kit* which provided a comprehensive *Framework for Effective School Indoor Air Quality Management:* Six Technical Solutions, which educated the IEQ Advisory Committee about the most common environmental problems experienced in schools, and included HVAC problems, moisture and mold, Integrated Pest Management (IPM), cleaning, maintenance, material selection, source control, energy efficiency, and the appropriate technical solutions. Several of the resource checklists developed by the EPA were reviewed and adapted for the HCPSS by the IEQ Advisory Committee in conjunction with many of the resource checklists developed by the SET. Copies of the checklists developed by the IEQ Advisory Committee recommended for the systemwide framework are included in the appendices of this report.

In addition, the findings, materials, and resources of the MCPS and the BCPS were reviewed and analyzed for "lessons learned" and were incorporated by the facilitators throughout the work of the committee. Especially useful was the MCPS's Concern Form, which provided a useful model for developing a generic concern form that could by used to document and communicate IEQ concerns in the HCPSS. The work of the IEQ Advisory Committee incorporated input from stakeholder groups including students, teachers, administrators, technical experts from the HCPSS and the Howard County Health Department, parents and community members. Additional input was received from the Superintendent's Cabinet during review of the recommendations of the IEQ Advisory Committee.

Plan of Action

A two-fold plan of action and communication for indoor environmental quality is planned. The action plan includes systemwide scheduled and standardized walk-through reviews of designated areas of each HCPSS facility. The walk-through reviews would be conducted at least twice each year, or more as needed. Each team would be composed of a diverse representative group of HCPSS facilities personnel, school staff, parents, students, and community members, led by an IEQ School-based Team Leader. An appointed HCPSS IEQ Coordinator in the HCPSS Department of School Facilities would monitor all school/facility teams.

Protocols for communication will be implemented that will inform the Howard County community on all IEQ concerns, updates, and resolutions. These communication protocols include a designated space on the HCPSS website for IEQ information, developments, and updates. The protocols recommend that each school use its website to inform its community of any and all IEQ concerns in a like manner. Furthermore, both the HCPSS website and each school website should provide an easily accessible form which can be downloaded. The form can be used to document any IEQ concern or question with a specific turn around time for contact and response. Copies of all concern forms and resolutions should be filed at the district level with copies of the appropriate concerns and resolutions filed at each school. A mission statement developed by the IEQ Advisory Committee communicates the mission of IEQ School-based Teams to the HCPSS community at large, and guides the work of the IEQ School-based Teams.

The Walk-Through Review Process

The IEQ Advisory Committee began its work by using the EPA's Framework for Effective School Indoor Air Quality Management as a guide to study the current practices and approaches to address IEQ problems in the HCPSS. Key representatives from the HCPSS Department of Facilities, which included Building Services, Custodial Services, Grounds Services, Energy Management Services, and IPM, who also served on the IEQ Committee, reported on the identification and the corresponding best practices and steps currently taken to address these common problems. Once the IEQ Advisory Committee was able to learn about and study the current services and solutions for typical IEQ problems provided by HCPSS specialists, the IEQ Advisory Committee took a more in-depth look at the charge of the committee as designated by the Charter for a systemwide plan on IEQ and began its work on the first part of the envisioned two-fold plan; an organized walk-through review process.

Based on the process previously used by SET with the adaptations of the EPA's *Indoor Air Quality Tools for Schools Framework and Action Kit*, the walk-through process was broken down into seven components: participants of the team, the task of the team, general walk-through areas, the IEQ Coordinator, the general walk-through process, the role of classroom teachers, and the role of the building administrator. These components were assigned to sub-committees for review, and study. Each subcommittee reported their findings to the committee at large. Findings were compiled and each group member was given the opportunity to extend support and make final comments on all findings in a document, *IEQ Decision-Making Feedback Recommendations*, which is included in the appendices.

Participants of the Team

It is recommended that each school or facility have an IEQ walk-through team that will receive training. The majority of the IEQ Advisory Committee believed that the school/facility teams should include the following participants, as a minimum for every school/facility:

1. Health nurse or health assistant representative: This person is key and will have background knowledge on students/staff in the school with health concerns and challenges.

- 2. Custodial building supervisor: This person has full and extensive knowledge of the building and its history, if any with environmental concerns.
- 3. Staff member: It is suggested that if only one staff member is on the team, the participant should be a member of HCEA. If more than one staff member is willing to serve, a para educator or other staff members might be considered.
- 4. Parent representative: At least one, however two or three is preferred. It is recommended that one participant be a PTA representative. The opportunity for two additional community members to participate will increase trust and transparency.
- 5. High School science lab representative: Laboratories and chemicals have additional considerations that a trained professional must be cognizant of to ensure safety protocols for use and disposal are being followed.
- 6. IPM and Risk Management representatives: It was noted that the manpower for this service is limited. Unless the personnel for these two areas are increased it may be best to consider these two office representatives used on "as needed," basis or for consultation.
- 7. IEQ Team Leader: Each school/facility should have a team leader.
- 8. HCPSS IEQ Coordinator: While it may not be necessary for a County IEQ Coordinator be present for every walk-through, it is strongly suggested that there be a Central Office IEQ Coordinator. This person from the HCPSS Department of Facilities will "oversee" all local teams and coordinate at the district level.

The Task of the School-Based Walk-Through Team

It is important to consider the amount and availability of HCPSS resources and personnel when the task of walk-through school-based teams are planned, which the IEQ Advisory Committee recommended at least twice a school year. If a specific concern is noted or reported, additional walk-throughs can be planned to ensure that the particular concern has been satisfactorily resolved. Due to the heavy use of high school buildings, a summer walk-through might also be considered. In addition, the IEQ Advisory Committee recommended that the first walk-through be an introductory walk-through to familiarize the school-based team with the building and campus of the school. If a building is under construction or renovation the construction manager should be part of the walk-through team. A standardized form for documenting the results of all walk-throughs should be developed and used by all IEQ School-based Teams.

General Walk-Through Areas

The IEQ Advisory Committee noted that some of the areas listed on the EPA checklist, the SET checklist, or both, such as the boiler and mechanical rooms are regularly inspected by HCPSS personnel. Therefore, the IEQ School-based Teams may choose to review the appropriate documentation of these inspections rather than physically inspect the particular areas. The IEQ Advisory Committee did discuss the possibility that only qualified personnel should have access to the roof area and crawl spaces, for safety and liability reasons. Although playground areas, the track and stadium areas should be reviewed because the mud, dirt, and allergens can be brought into the building and thus affect the air quality, the high school concession stands are maintained by the booster groups and must be regularly inspected by the Howard County Health Department and therefore do not need to be part of the walk-through. The following areas should be considered for the walk-through review process, which when finalized should be standardized.

- 1. Air intakes
- 2. Any outside vents
- 3. Bathrooms
- 4. Boiler room
- 5. Building perimeters
- Concession stands

- 7. Crawl spaces COHFINED SPACE ISSUES / Centrhied
- 8. Dumpsters
- 9. Hallways
- 10. Locker rooms
- 11. Mechanical closets
- 12. Playgrounds
- 13. Ramps to outer buildings
- 14. Roofs
- 15. Stadium area/Track area
- 16. Stairwells
- 17. Storage areas in basements
- 18. Walk-ways
- 19. Water fountains

The IEQ Coordinator and School-based Team Leader:

The IEQ Advisory Committee fully supported that there must be an IEQ Coordinator at the central office level and an IEQ School-based Team Leader at each school level. The committee also supported joint responsibility and accountability at the school and district level. While the IEQ Advisory Committee appreciated the limited number of district personnel, the committee strongly supported the appointment of a staff member of the Department of School Facilities as the IEQ Coordinator for the HCPSS. The IEQ Coordinator would be responsible for the training of all school-based IEQ Team Leaders, and serve as a liaison and single point of contact. Part of the training provided by the IEQ Coordinator. would be a model walk-through for all the IEQ School-based Team Leaders to ensure standardization and consistency of the process. It will also be the IEQ Coordinator's responsibility to respond to all submitted concern forms and communicate with the schools for a timely resolution of any concerns. The school-based IEQ Team Leaders should be provided with a standardized list of their defined responsibilities which should include: the training of all team members, setting meeting dates, communicating with the team, conducting the actual walk-through process, logging concerns, communicating concerns to the IEQ Coordinator, and communicating the resolution of concerns with the school administration. The IEQ School-based Team Leader should post the results of the walkthrough process on the school's website.

General Walk-Through Review Process

The IEQ Advisory Committee determined that the walk-through team should conduct both the indoor and outdoor review of each school/facility, and that all suggested standardized checklists should be developed in simple laymen's vocabulary and terms. "The Indoor Air Quality Backgrounder: The Basics," included in the EPA's Indoor Air Quality Tools for Schools Framework and Action Kit contains helpful information that should be part of the IEQ School Team training. A copy is included in the appendices. All IEQ School-based Teams should receive copies of the master checklist and any specialized area checklists (Science labs, Family and Consumer Science) that will be used as well as a map of the facility, and the necessary equipment for temperature and humidity monitoring. The IEQ School-based Team members should be checking for the following in all areas: unusual odors, thermal comfort, safety, excess moisture, proper ventilation and general cleanliness. The IEQ Advisory Feren Committee recommends that the SET format for the Master Indoor and Outdoor Checklist be used to develop the Master Checklist for IEQ School-based Teams (with appropriate updating). The format includes a list of reviewed areas, columns to mark if the area is okay, or needs attention, as well as an area for comments. A copy is included in the appendices. Finally, The IEQ Advisory Committee recommends that any kind of "safety inspection" of equipment continue to be handled by the HCPSS Office of Safety and Risk Management.

General Classroom Teachers

The IEQ Advisory Committee discussed the importance of all school staff, especially classroom teachers being part of the front line approach to maintaining indoor quality environments. "Background Information for Teacher's Classroom Checklist," provided in the EPA's Indoor Air Quality Tools for Schools Framework and Action Kit is essential for school staff. A copy of this document is included in the appendices. This information might be included in a Safe Schools Module for delivery and should be a part of the opening of each school year. Every classroom teacher should report any problem in their designated instructional areas to the building administrator and the custodial staff. The EPA Indoor Air Quality Tools for Schools Framework and Action Kit includes a very user-friendly classroom checklist for their reference, which is included in the appendices. problems/concerns should be immediately reported to the appropriate administrator or other school personnel (Chief custodian). Classrooms should be inspected on a regular basis by the appropriate school leadership staff. Although it is suggested that eating in classrooms should be discouraged because of potential IPM issues, the IEQ Advisory Committee is aware of the challenge that this recommendation poses especially at the elementary level. Teachers should educate students on the importance of a quality indoor environment and the important part students play in its maintenance. Specialized instructional areas might require separate specific checklists (science labs, food labs, gym, weight rooms, art rooms). "A quick reference guide" posted to serve as daily reminders to maintain a quality indoor environment might be developed for staff similar to the guide provided by SET (refrain from stacking books or hanging clothing in front of vents, etc.) A copy of this guide is included in the appendices.

Administrative Staff Checklist

The IEQ Advisory Committee reviewed the separate Administrative Staff Background Handout and Administrative Staff Checklist provided in the EPA's *Indoor Air Quality Tools for Schools Framework and Action Kit.* Both documents are included in the appendices of this document. The IEQ Advisory Committee determined that the IEQ School-based Team, which should include an administrator, already covered several of these items. It was noted that particular items included on the list such as inspection of office machinery be deleted as contracted technicians perform this service. The committee also discussed that at the high school level the assistant principal that is responsible for the supervision of the school facility might serve as the IEQ School-based Team Leader, however this may not be feasible at the middle or elementary levels. The responsibilities listed do not include tasks to be performed by HCPSS technicians and experts (HVAC, etc.). The team identified the following as responsibilities of the school administration:

- 1. Be proactive by holding the custodial team accountable for maintaining a clean building and ensuring that normal routines and procedures are consistently practiced.
- Inform the staff at the beginning of each school year of the teacher/classroom checklists that should be completed on a consistent basis. Items and actions should be clearly defined and explained in order for staff to maintain their teaching/work areas (this may be done through a safe schools module).
- 3. Ensure that office machinery and other equipment are housed in an appropriately ventilated area.
- 4. Assist the school nurse or health assistant in identifying head lice if necessary.
- 5. Ensure that the IEQ School-based Team is active and performs its duties.
- 6. Read all concerns forms and confirm follow-up and resolution by communicating with IEQ Coordinator as necessary.
- 7. Submit a Safe Schools Plan each year to the Office of Safety and Risk Management for review and feedback.

Communication Protocols

Students, staff, and the entire Howard County community utilize the facilities of the HCPSS every day, all day long. High school buildings are especially popular because of the auditoriums and gymnasiums, and many buildings are in use seven days a week from early in the morning until 11:00 in the evening. While the IEQ Advisory Committee learned that it is not uncommon for all buildings to develop structural, operational, and functional problems, it is paramount that when such problems occur, that each problem be handled correctly, efficiently, and in a timely manner. As the HCPSS is accountable to the Howard County community at large, it is also paramount to build trust and reliability. Therefore, when problems do occur, identified problems as well as resolutions must be communicated to all stakeholders in an open and transparent manner. A similar collaborative process previously described was used by the IEQ Advisory Committee to do the work for this part of systemwide plan. The IEQ Advisory Committee broke into sub groups and examined the MCPS IEQ Complaint Form. Each sub group discussed edits, changes and made suggestions for a general IEQ Concern Form, which were presented full committee. Sub groups reviewed, updated, and rewrote the mission statement developed by SET in 1998. Finally subgroups suggested further ways to use social media to communicate IEQ topics with the HCPSS community. For each topic, all work developed by sub groups was shared and reviewed by the whole group. Each group member was given the opportunity to share comments and feedback on the full set of recommendations. To put the communication protocols into action the IEQ Advisory Committee recommends the following:

 All IEQ School-based Teams will support and make actionable the mission statement developed by the IEQ Advisory Committee.

Mission of the IEQ School-Based Team

The IEQ School-based Team identifies potential issues/concerns before they reach the level where occupants' health and safety are at risk, to provide an avenue of communication through which any concerned individual can report potential indoor environmental problems, and to increase education and awareness of the importance of maintaining proper indoor environments.

- An HCPSS website will be developed to provide IEQ environmental information to the HCPSS community. The HCPSS website will provide information about concerns, potential as well as identified problems, and resolutions as necessary and appropriate to the system as a whole.
- Each school will include a location on its canvas page/website for the same IEQ information as it
 relates to that particular school. In particular, each school will communicate all results of scheduled
 walk-through reviews of the building. Any and all problems identified by the IEQ School-based
 Teams will be reported along with ongoing work and resolutions.
- Both the HCPSS website and all school canvas pages/websites will provide the opportunity for individuals to download and submit either electronically or in hard copy a concern form.
- The IEQ Concern Form suggested by the IEQ Advisory Committee should be confined to one page. The suggested information to be included on the form is listed in the appendices.

Next Steps

The following work will be divided into four phases that are not necessarily sequential. In fact, some may occur in tandem. Doing so will provide opportunities for constructive feedback and continuous improvement as each component of the plan is rolled out across the county.

TIMELINE FOR A JULY 1, 2016 ROLL OUT

Timeline	Action
Phase 1: 3/15 - 4/15	Finalize the systemwide electronic template developed from the recommendations of the IEQ Advisory Committee for the walk-through process for school-based IEQ Teams.
Phase 2: 4/15 - 5/15	Implement a pilot walk-through in an elementary, middle, and high school. This will provide the opportunity to ensure that the walk-through process collects the important data, which is necessary to ensure quality indoor environments and provide the opportunity to make improvements to the walk-through process if necessary.
Phase 3: 6/1 - 8/15	The development of specific IEQ modules to be added to the Safe Schools Program for school-based staff and other professional learning for school-based staff based on the recommendations of the IEQ Advisory Team.
Phase 4: 7/1 - 8/31	The further development of the HCPSS Website page, which addresses systemwide indoor environmental quality issues, concerns, and updates. The website would include access to the Indoor Environmental Quality Concern Form which could be downloaded, completed, and submitted by any person along with notification of receipt. The development of a IEQ template for all schools which can be incorporated into their website to inform communities of indoor environmental quality issues, concerns, and updates. This page would include access to the Indoor Quality Concern Form, which could be downloaded, completed, and submitted, with notification of receipt.

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The Framework for Effective School IAQ Management: Six Technical Solutions

Quality HVAC ~

- · Inspect HVAC systems regularly
- · Establish a maintenance plan
- Change filters regularly and ensure condensate pans are draining
- Provide outdoor air ventilation according to ASHRAE Standard or local code
- · Clean air supply diffusers, return registers, and outside air intakes
- · Keep unit ventilators clear of books, papers, and other items

Control of Moisture/Mold -

- · Conduct routine moisture inspections
- Establish mold prevention and remediation plan
- Maintain indoor humidity levels between 30% and 60%
- · Address moisture problems promptly
- . Dry wet areas within 24-48 hours

Strong Integrated Pest Management (IPM)

- · Inspect and monitor for pests
- · Establish an IPM plan
- · Use spot treatments and baits
- · Communicate with occupants prior to pesticide use
- · Mark indoor and outdoor areas treated with pesticides

Effective Cleaning & Maintenance

- Conduct routine inspections of school environment
- · Develop a preventative maintenance plan
- * Train cleaning/maintenance staff on protocols
- * Ensure material safety data sheets (MSDS) are available to staff
- . Clean and remove dust with damp cloth
- · Vacuum using high-efficiency filters

HVAC Moisture/Mold



Cleaning & Maintenance Materials Selection

Source Control

Smart Materials Selection

- Maintain products inventory
- Develop low-emitting products purchasing and use policies
- Use only formaldehyde-free materials
- Use only low-toxicity and low-emitting paint
- Select products based on product rating systems
- Use least toxic cleaners possible (only those approved by the district)

Aggressive Source Control

- Conduct regular building walkthrough inspections
- · Test for radon; mitigate if necessary
- Implement a hazardous materials plan (use, label, storage and disposal)
- Establish a school chemical management and inventory plan
- · Implement Smoke-Free policies
- · Establish an anti-idling school bus policy
- · Use walk-off mats at building entrances
- Conduct pollutant-releasing activities when school is unoccupied

Indoor Air Quality (IAQ)